

**VCE INFORMATICS**  
**CRITERION 1: HYPOTHESIS FORMATION**

**VCAA DEFINITION OF A HYPOTHESIS**

“A hypothesis typically describes a cause and effect and should include at least one prediction that does not arise from another explanation. It is a statement or tentative prediction about the relationship between two or more variables; that a change in one of these variables will result in some change in another. A hypothesis must be testable. Reasons outlining the initial prediction are given. “

(VCAA Advice to Teachers)

**PROFORMA FOR DEVELOPING A HYPOTHESIS**

This outline was presented at the 2016 SAT Training Day (February 2016). Author needs to be acknowledged.

More or less of (IV)	leads to	More or less of (DV)	because of	Reason
Listening to increased amount of music during class	leads to	Lower test scores in exams	because of	A lack of concentration when learning concepts

NB: many students may begin their statement with “It is hypothesised that ...”.

**VCAA ADVICE TO TEACHERS (Samples)**

Athletes participating in under-age competitions whose birthdate is in the first quartile of the age-group category are more successful because of the advantages of physical maturation (a person born on 2 January, competing in an under age group with a cut-off of 1 January, is more likely to have greater opportunities for physical development than an athlete born on 31 December and competing in the same age group).

The changing nature of shops during the period 2010 to 2014 in a designated area (for example, High Street, Northcote) is due to a change in the demographics (or ethnicity) and sustainability values/opinions of local residents (younger wealthier people who value eating out, particularly casual food, and who prefer organic food and boutique shops).

The eldest-born child in a family is more likely to succeed as a (political/sport) leader compared to their siblings because of family expectations of:

- Being a role model to younger siblings, hence assuming increased responsibilities from an earlier age OR
- Shouldering more responsibilities than their siblings.

AFL teams that finished in the finals over the past five years owe their success to the fact that they are financially sound due to their membership size and that they play more teams below them during the season, rather than above them.

**VCAA INFORMATICS 2016 EXAM**

If the telemarketers were allowed to work from home, they would have greater levels of satisfaction. This would lead to higher retention levels (fewer people leaving the company) and fewer sick days being taken. Overall, the telemarketing department would perform better and this would be good for the company.

**VCAA INFORMATICS 2016 SAMPLE EXAM**

Penguin numbers are going down because of an increase in visitor numbers during winter. The greater number of visitors in winter is disturbing the penguins at an important time for breeding.

## **JAZ SAMPLES (unofficial)**

When boxes of chocolate are given to teachers, the amount of homework will decrease because the teacher will want to please the students.

Listening to music for more than an hour will lead to lower test scores than studying without music because you are not completely focussed on the topic.

Student numbers in Physics at Cooke College has increased in part due to advertising the opportunity to attend the Luna Park Physics Week because students can see the relevance and importance of Physics in everyday life.

Student numbers in Physics at Cooke College has increased in part due to advertising the opportunity to attend the Luna Park Physics Week because students can see the relevance and importance of Physics in everyday life.

The number of people playing a video game increases whenever an expansion pack is released because of the renewed interest in the game.

The number of lyrebirds in the Dandenong Ranges has increased significantly in the past five years due to the implementation by the Council of measures to control feline population and behaviours.

The number of females playing football has increased in the past five years due to the increased funding and support by the AFL and the publicity that has been generated.

The number of hipster cafes in inner Melbourne has increased as the number of people who identify themselves as hipsters have because it is cool.

## **SUGGESTED HYPOTHESES FROM 2016 SAT TRAINING DAY (unofficial)**

1. The increase in social media use has led to an increase in anxiety and depression amongst teenagers today.
2. Studying for some number of hours by sleeping late at night will lower your study score than sleeping on time because sleep deprivation will not let you focus on study.
3. The number of male students undertaking VCE Informatics is higher than the number of female students because of lack of female teachers teaching the subject
4. Exposure to Facebook will increase the chances of being cyberbullied as opposed to a non-Facebook user because you reveal less personal data.
5. Female footballers' skillsets will improve at a faster rate with more practice time.
6. The attitude of maths students will improve with good teaching practice
7. The attitude of maths students will improve with more homework completed
8. The amount of sport played outside of school will lead to a higher progress score because students who play sport are more disciplined
9. Since the introduction of the new Australian privacy laws, illegal downloads have dropped
10. The amount of time studying by students will increase closer to the due date because students leave things to the last minute
11. Participation in junior soccer has increased since Australia participated in the 2006 World Cup
12. AFL football teams have a higher accuracy of scoring shots because of the improved quality of grounds (or larger goal posts) in the past 20 years.
13. Teachers participating in Informatics professional development sessions improves the results of the students because of additional information gained by the teacher
14. Practising more questions in maths will increase a student's final examination score
15. Speed cameras reduce the number of deaths and serious injury to all road users in Melbourne (users include pedestrians, bike riders, car passengers and drivers)
16. Large scale disasters such as bombings or mass shootings lead to an increase in sales of home-based entertainment such as video games or crafting goods due to fear of going out
17. Students in government schools are less likely to gain entry to university as they don't have access to higher-end facilities and resources than private schools offer

18. Students who play video games for more than an hour a night will see a decrease in their test scores/study habits
19. Piracy in Australia will continue to rise due to the unaffordability and access on demand of services currently available
20. Students who have at least eight hours of sleep per day will get better test results due to their ability to be alert in class
21. Students who exercise at least one hour a day everyday will be in the recommended XXX due to proper balance between input and output of kilojoules.
22. Public exposure to information on the Paleo diet will decrease the rate of obesity in Australia due to the media coverage surrounding celebrity chef Pete Evans.
23. Students are enrolled in religious schools for academic rather than religious education as they identify as non-practising or a different religion to the school.
24. Students who come from families with tertiary educated parents will gain higher VCE scores than those whose parents are long-term unemployed due to their parents' attitude to education.
25. Musical artists who refuse to put their songs on Spotify actually have lower sales of albums than those who do because of the spite of the Spotify community.
26. Students with higher overall marks at school are less likely to show up to school sport carnival days because they are can't see the point in wasting time outside of academic classes.
27. Cats that are fed regularly during the day at home do not stray from home because their food needs are met.
28. Going to a private school will increase your ATAR score by 10% more than a government school because there is a better culture of learning.
29. Video store rentals are declining due to increased use of Netflix because they are more convenient.
30. More girls are taking IT where there is a female teacher because they feel more comfortable with them.
31. Student results are poorer in students who spend over an hour on-screen time before sleep because of increased mental stimulation causing sleep disturbance.
32. Movies with Nicholas Cage are reviewed more ironically by the general public because he has a weird face (Face Off)
33. Students who have single parents are likely to have discipline issues in school due to lack of complete parental supervision at home.
34. School canteen sales have dropped since the introduction of 'healthy food' policy because students don't like the food.
35. Students consume higher amounts of sugar/salt in foods in recent years due to increased availability of processed foods.
36. There will not be a change of government at the next federal election as the pattern is to keep the incumbent.
37. Bowlers who practise a set number of game skills will achieve a higher number of winning ends in pennant bowls.
38. The physical nature of soccer has results in a decrease in secondary age boys selecting AFL because parents are concerned with the possible injuries associated with collision sport.
39. Listening to classical music while studying will increase student concentration over not listening to classical music. This is because classical music activates parts of the brain that increase concentration.
40. AFL teams that play two interstate games in a row are more likely to lose the second game due to the extra travel fatigue experienced by the players.
41. As house prices in Melbourne have increased so have the number of families where both parents work.
42. Being physically active every day improves concentration and student achievement.
43. Statistically it is more likely for men under 165 cm to find it difficult to start a relationship due to online dating.
44. Students who do not eat breakfast perform worse on tests than those who do. This is because they cannot concentrate as well.
45. Using Facebook for longer than one hour per day will lead to lower VCE scores because it will cause you to think about social media while you are trying to work.
46. Increases in computer-game console popularity have resulted in an increased prevalence of vitamin D related illnesses.
47. Academic performance is improved by regular hours and enough sleep.
48. Increasing the number of hours in study will lead to higher test scores because you are more familiar with the content.

49. Students that spend more hours on the internet are more likely to develop mental health issues due to a lack of social interaction.
50. Studying for four hours each evening will result in my average test scores improving because I will have time to complete my homework and revise.
51. Students who play video games achieve lower marks to those who don't due to distractions or addictions to the games.
52. Adolescents no longer watch commercial television due to the increasing options of accessibility of online streaming services.
53. Excessive amounts of homework can have a negative effect on students' school results.
54. Lockout laws reduce the instance of alcohol-related violence since its introduction.
55. Using mnemonics will improve memory retention in students because brain training exercises increase the brain 'muscle' function like exercise improves muscles.
56. Trains run to published timetable schedules more reliability in Sydney compared to Melbourne because ticket prices and government funding are greater.
57. Students that walk to school have less health issues compared to those that are driven to school.
58. People who participate in a hobby/sport/leisure activity for at least half an hour per day have a better wellbeing than those people that don't due to factors such as relaxing, destressing (endorphins released)
59. Students studying Economics who handwrite notes perform better in exams than students who type notes because handwriting notes make it easier to commit concepts to memory.
60. Students who undertake a VET course in VCE are more likely to become tradespeople than students who don't because they get a good understanding of the job.
61. The average top speed of tennis serves has increased over the last five years as tennis racquets have become more expensive and high-tech.
62. The highest paid AFT footballers are worth their salaries because their statistics are consistently the best throughout the season.
63. The scoring rate average of a basketball player is related to their salary e.g. the best paid players have the best average.
64. Students who prepare summaries of their maths topics in addition to completing the exercise questions will perform better in the exams than those who only focus on doing questions. This is because they gain an underlying knowledge of the concepts as well as the skills.
65. Students prefer to take down board notes rather than watch PowerPoint presentations. This is because it keeps them focussed on the topic and allows them to comprehend better.
66. Children identified on the autistic spectrum are disadvantaged by being placed in a special school due to the reduced amount of interaction with other neuro-typical children.
67. Playing on computer games in high school for more than two hours a day will lead to students becoming addicted to computer game in up to six months, as the student will choose to play a game over completing work they find boring.
68. Being exposed to as many spoilers as possible in the lead up to a film release can greatly enhance the audience's enjoyment of the film.
69. NBA teams that are top five in 3-point percentage in the league have more wins than others because they score more points.
70. Since the introduction of the Greater Western Sydney F C, participation and support for AFL has increased at the junior level in Western Sydney as they are more exposed to AFL.
71. The number of Foxtel subscribers will increase with the advertising budget on free-to-air television because more people will be exposed to the possibility of having pay TV.
72. The increase in the variety of coffee beans used by Melbourne cafes will lead to increased consumption of coffee by Melburnians because people like to try different bean flavours.
73. A non-developed country hosting the Olympic Games will lead to extreme financial and economic problems for them as funds in important national departments are neglected.
74. Listening to music in class while doing individual work helps me to focus on what I am doing and I get better results in tests and exams.
75. Students who are home schooled get better results than those going to a normal school.
76. Cat registrations in Mornington shire have been decreasing since the introduction of the confinement of Pets Order.
77. Teenagers who use their phone two hours before they go to sleep will take longer to get to sleep because the brain is stimulated at the wrong time of the day.

78. School IT resources are less than those used in business due to lower budgets and technical support.
79. Teenagers aged 12 to 16 who play first person shooters at least 30 minutes a day will have great reflexes in sport due to improved hand-eye coordination.
80. Senior school sporting teams finish higher on the sporting table when year 12 students participate and attend each game regularly because they bring more size and experience to each of the sports they play in.
81. Running in a pair of Nike will lead to higher shock absorption than running barefoot because of the Air technology.
82. The rise of social networking has created the issue of cyberbullying.
83. Students who use Edmodo four times a week or more improve their topic test results due to being able to get additional explanations of concepts.
84. There are more people baking homemade bread due to the increase in cooking reality TV shows.
85. The number of weddings conducted on a weekend increases in summer due to the good weather.
86. Apple changing plug types with newer models will decrease their market share as some customers will move to brands such as Samsung with consistent plugs.
87. Activity level increases when a person wears a Fitbit because the wearer is motivated by real time feedback.
88. Vaccination rates are lowest in suburbs with lowest incomes because of the cost incurred.
89. Mineral foundation provides effective coverage compared to liquid foundation because it contains ingredients that last longer on the skin.
90. The percentage of primary school children playing soccer in the last five years has increased due to the success of the men's and women's teams.
91. More people go to the MCG to the footy on fine days.
92. Drinking two litres of water a day will make you healthier than if you did not.
93. Playing violent computer games makes adolescents more likely to commit violent acts. This is because they are desensitised to violence.
94. VCE students who do homework for an hour every night will have higher student scores than those who do not do any homework because revision helps increase understandings.
95. Spending more than two hours a day on Facebook will cause your exam scores to be lower than those who spend less than one hour a day.
96. ICT teacher confidence decreases the longer a study design and teacher advice (hence a textbook) take to be released due to anxiety.
97. If commercial bee hives are located near intensive crop farming areas, then the quantity of honey produced by the hives will be less than those placed in natural forests due to the less consistent access to flowering plants.
98. Increased use of BYOD and/or netbooks in the Victorian Education system has led to a decrease in numeracy and literacy standards.
99. Students who play computer games four times a week score better in information technology because they have a good understanding of digital systems.
100. Using Google maps in your car will get you to your destination more quickly than a GPS because Google Maps contains real time traffic information.
101. Students who are addicted to computer games gain weight quickly as they eat quick junk food.
102. Playing video games for more than two hours per day will lower assessment results of VCE students because they are not focussed in class as they are tired.
103. The number of visitors to national parks has decreased as the prevalence of mobile devices has increased over the last 15 years due to perceived lack of communications.
104. The number of sixes and fours being hit in test matches has increased because the quality of the bats has improved.
105. Men who are married to women live longer than men who are not married as their social interactions are maintained.
106. The number of students undertaking VCE IT has decreased because students feel they have sufficient skills in IT already, and therefore don't need to study it at VCE.
107. Students that participate in regular sport (organised clubs) are more healthy than students that are not because of the physical exercise routines.
108. Increased use of ICT devices in schools lead to lower exam results due to less opportunity to practice handwriting.